

Regional Case Study

US 1 (Capital Boulevard) at
Paragon Park Road in Raleigh,
Wake Co.

Capital at Paragon Park Rd.





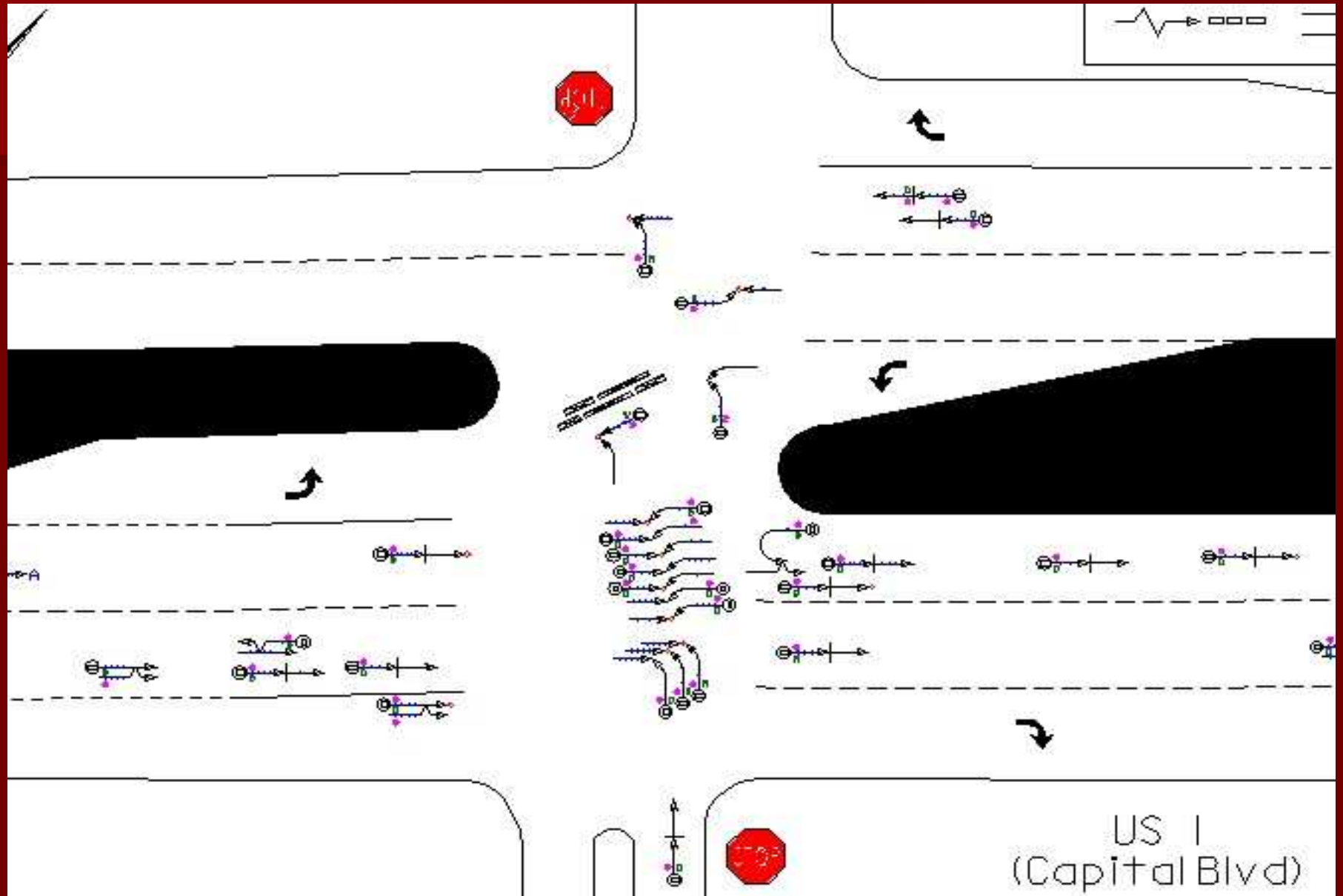
When it all Began

- Fatal Crash in 2004 – Angle (Failure to Yield)
- Traffic Signal Request

Concerns

- Proximity to highly congested intersection of Capital Blvd. and Durant Rd./Perry Creek Rd.
- Queuing through intersection
- Full median opening
- ADT on Capital Blvd. (61,000 in 2005)

7/1/01 – 8/30/04 (3yrs, 2 mos)



Early PM



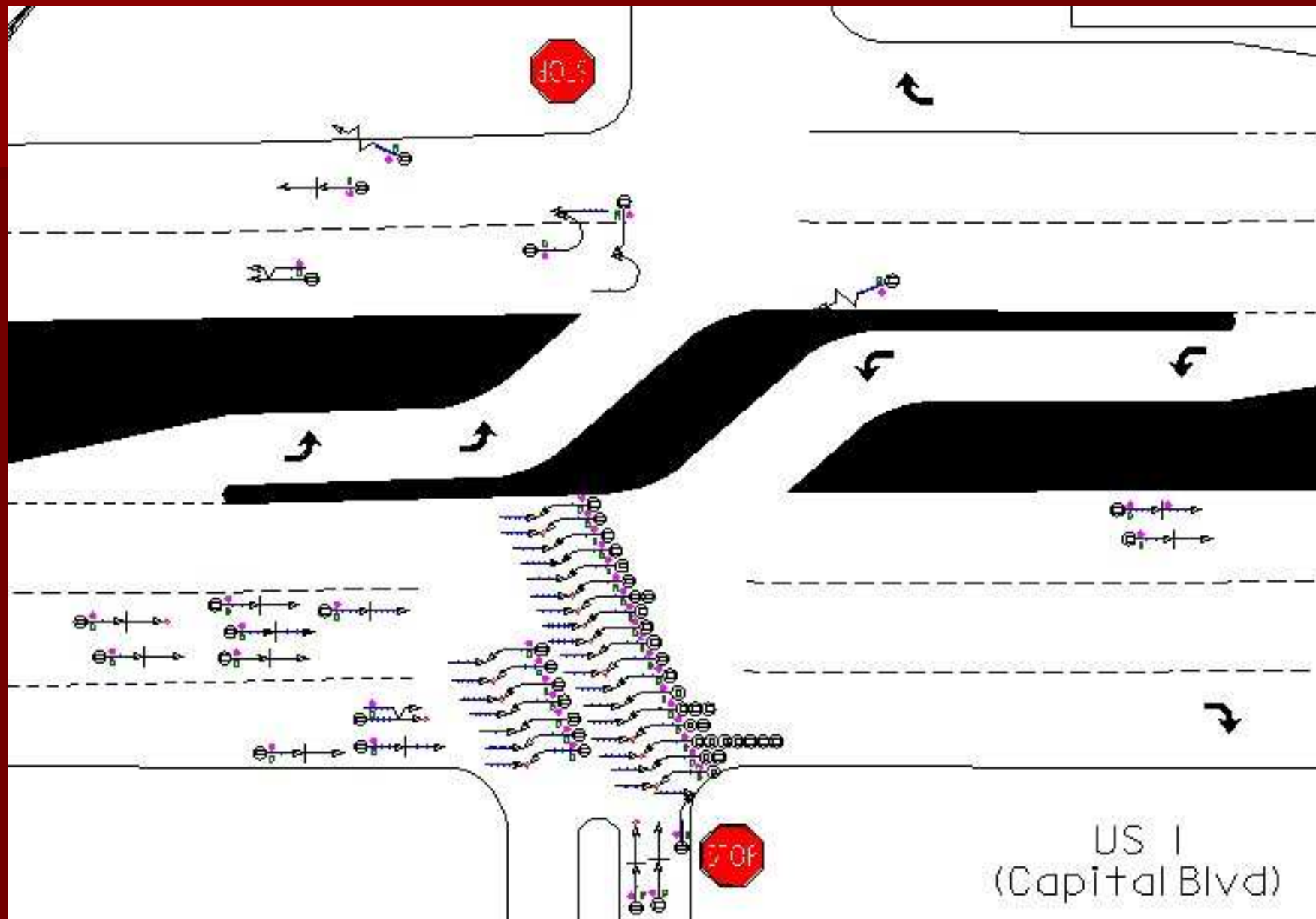
Improvements – Fall 2004

- Resurfacing Project
- Leith Toyota developing west side of intersection
- Directional crossover installed
- Additional through lane added NB from I-540 to Durant/Perry Creek. (1.2 mi)

Crashes and Complaints Began Again

- Still having queuing issues on NB Capital
- Courtesy Gaps
- Left Turn – Same Road Crash Pattern

10/1/04 – 11/30/07 (3 yrs, 2 mos)



Before & After

<u>Treatment Information</u>			
	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	33	57	72.7
Total Severity Index	8.28	3.99	-51.8
Frontal Impact Crashes	14	37	164.3
Frontal Impact Severity Index	15.53	4.8	-69.1
Volume	52,000	56,000	7.7
<u>Crash Severity Summary</u>			
Fatal	1	0	-100.0
Class A	1	0	-100.0
Class B	2	10	400.0
Class C	10	13	30.0
Property Damage Only	19	34	78.9

Contributing Factors

- Queuing through intersection
- Courtesy gaps
- Traffic not evenly distributed in lanes
- Limited sight distance caused by vehicles in inner two lanes

Early PM



Countermeasure to a Countermeasure

- Met with Business Owner in NE Quadrant
- Adjusted timing at Durant Rd. signal
- Concern with Crash Migration to Homestead Rd. if we closed SB left turn at Paragon Park Rd.
- U-turn Accommodations and Additional Turn Lane Storage Needed
- U-turn Accommodations for Trucks

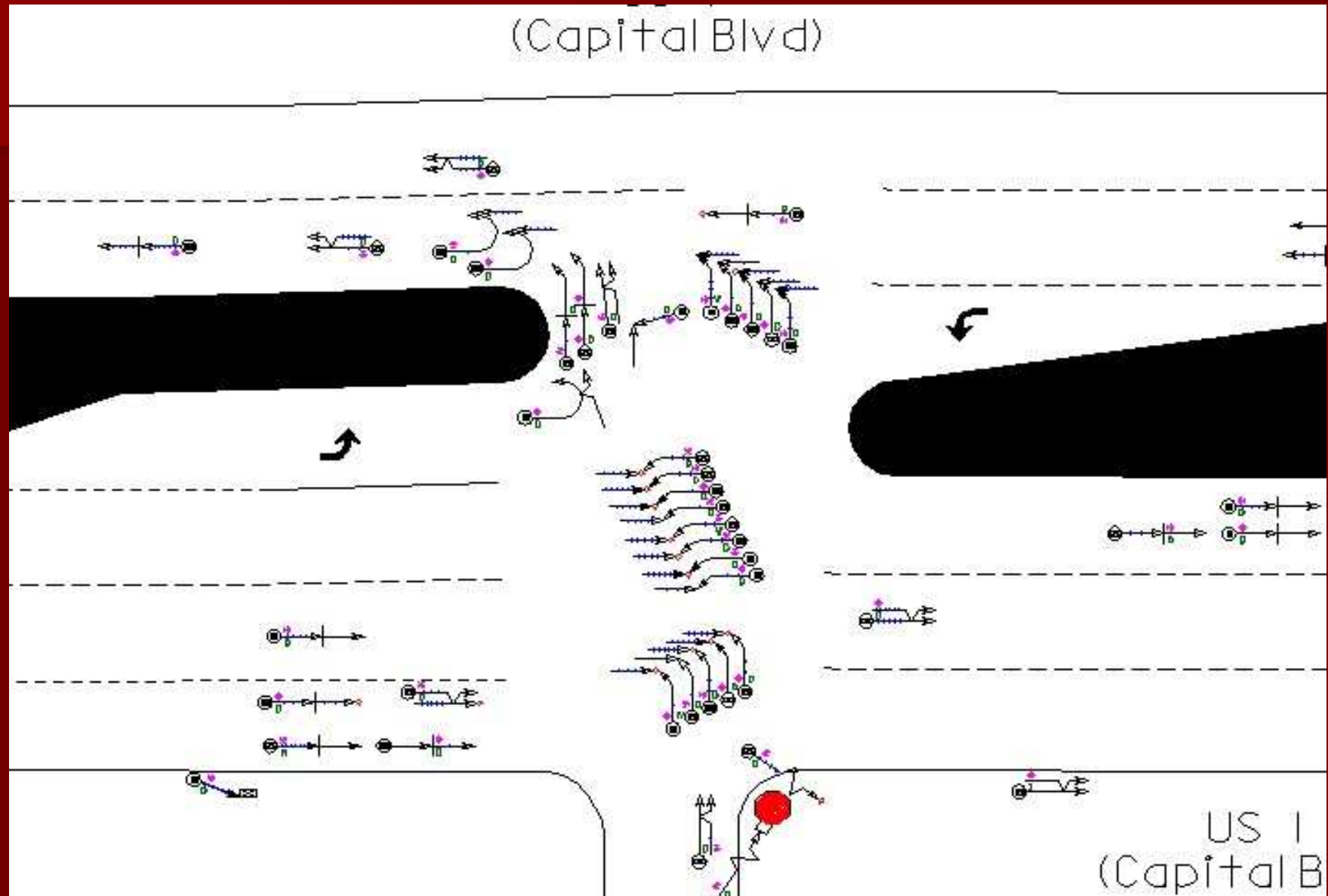
US 1 (Capital Blvd.) at SR 3046 (Homestead Dr.)





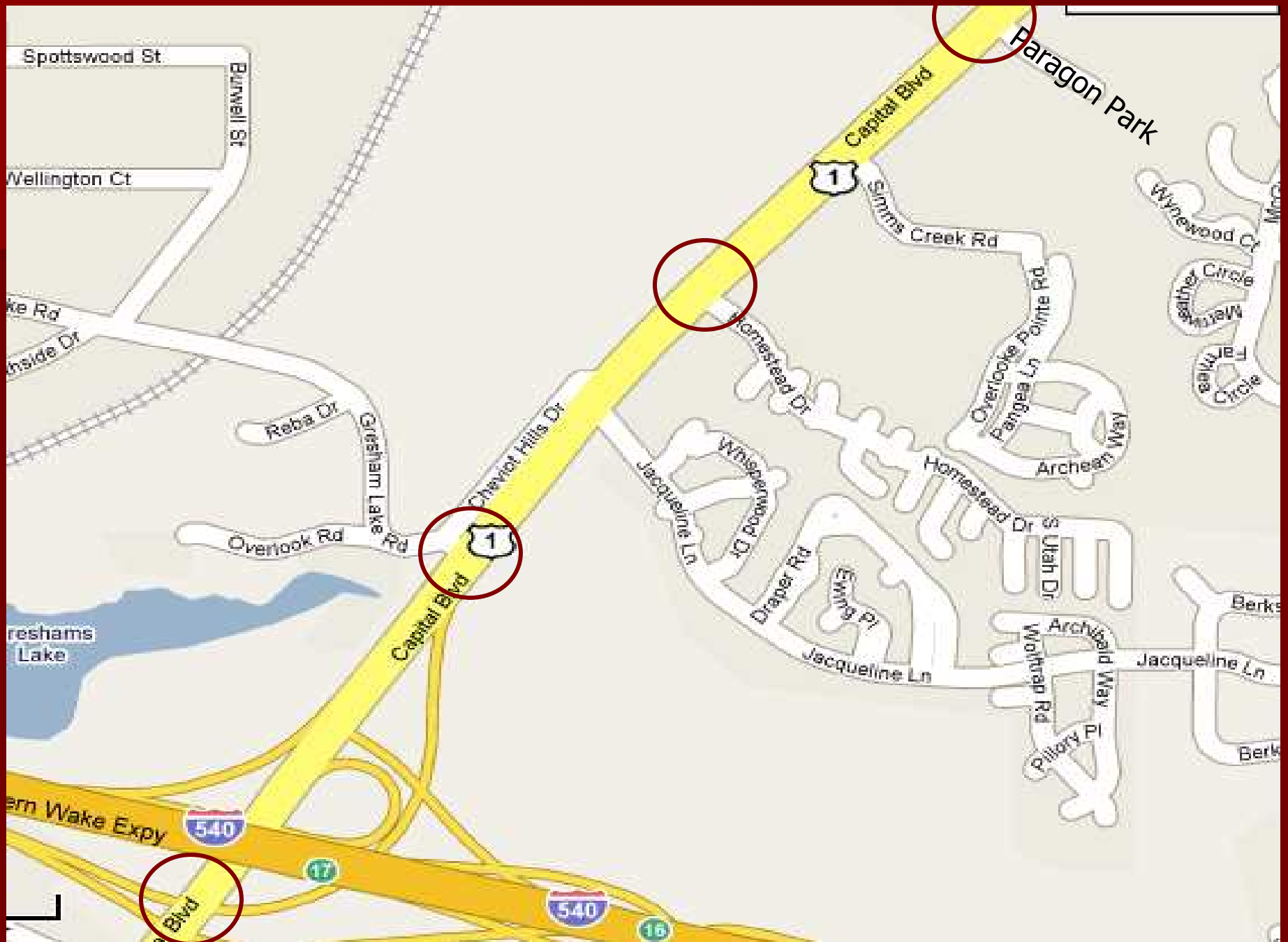
Homestead Rd.

10/1/04 – 11/30/07 (3 yrs, 2 mos)



Countermeasure to a Countermeasure

- Closed SB left at Paragon Park Rd.
- Closed SB left at Homestead Dr.
- Closed WB left at Homestead Dr.
- Lengthened NB left turn lane at Paragon Park Rd. to 480 ft. full storage



Capital Blvd. at Paragon Park Rd. Capital Blvd. at Homestead Dr.

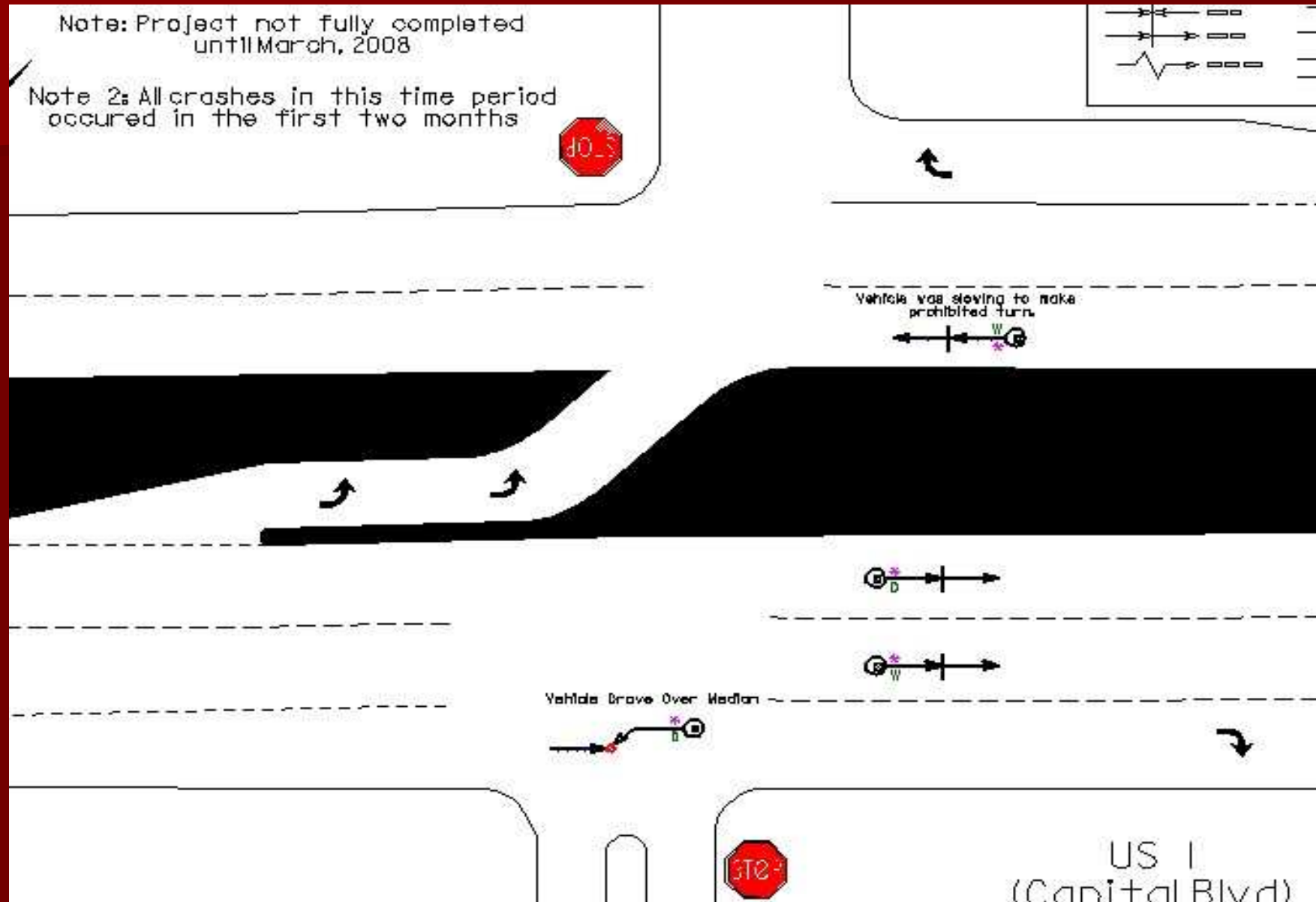
- Funded with Spot Safety funds
- B/C 5.63
- Cost \$180,000
- Project completed in December 2007

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NB Capital at Paragon Park Rd.



Paragon Park 12/1/07 – 5/31/08



NB Capital at Homestead Dr.



NB Capital at Homestead Dr.



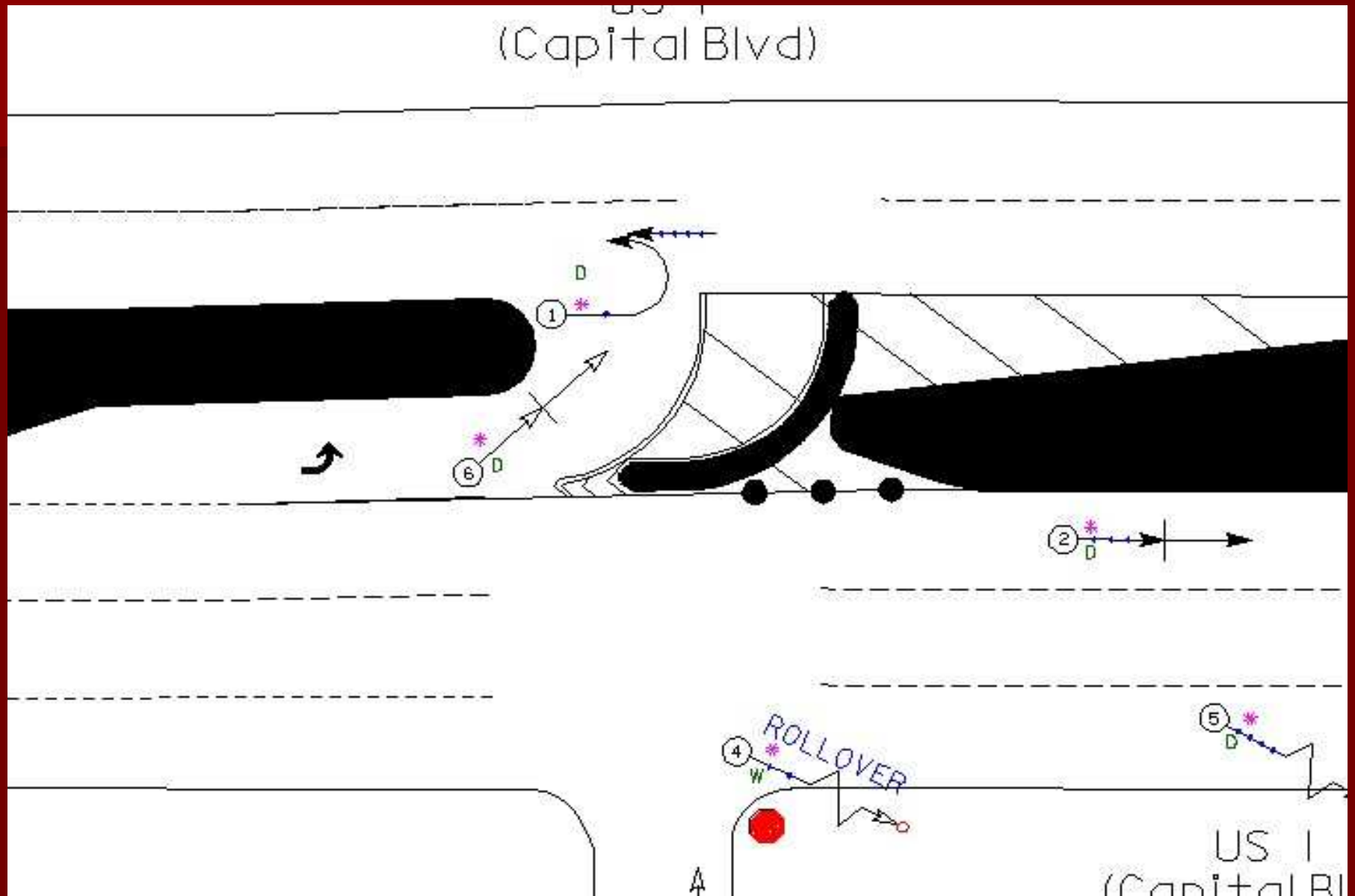
WB Homestead Dr.

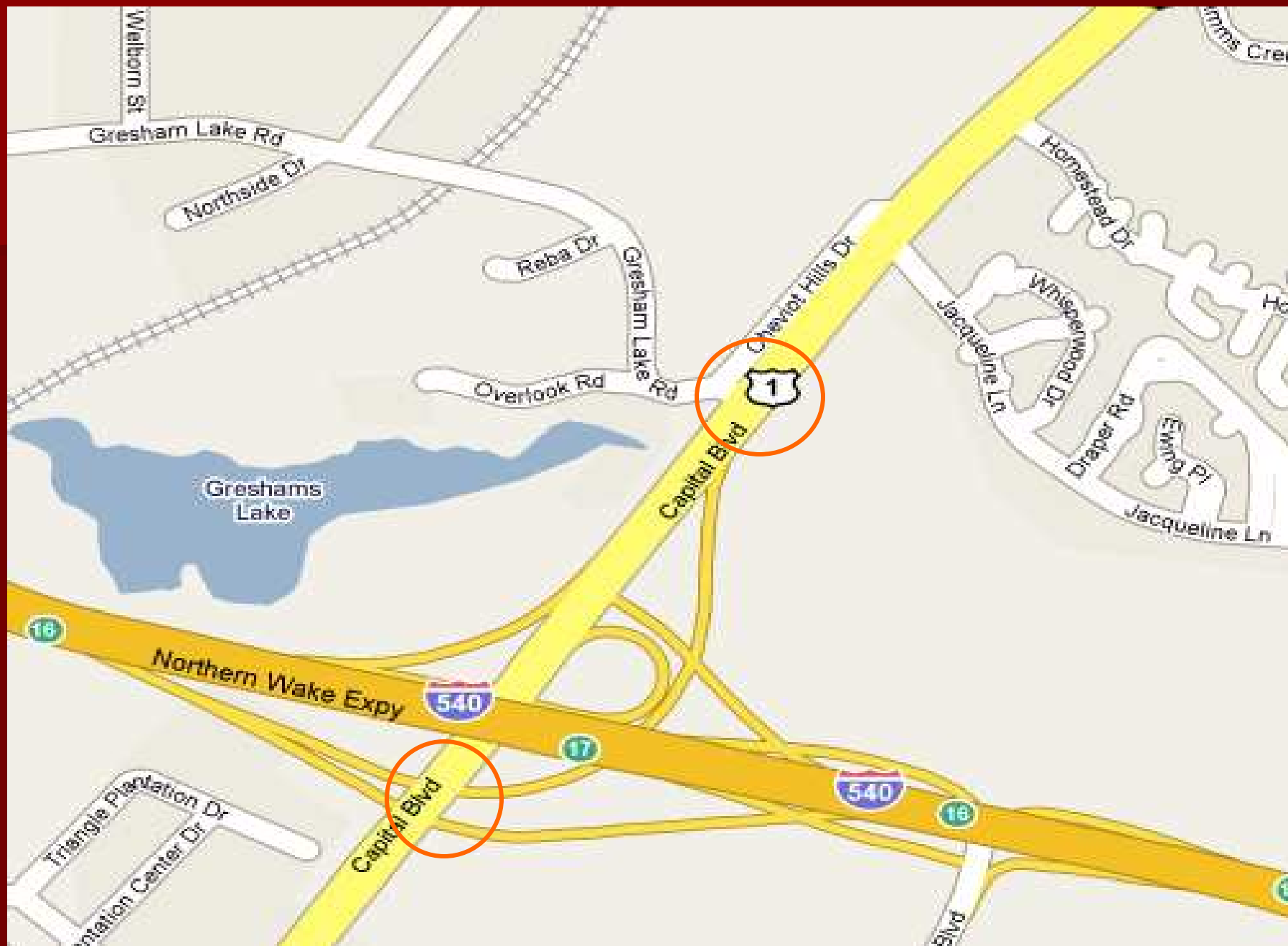


SB Capital at Homestead Dr.



Homestead 12/1/07 – 5/31/08





U-Turns for Most Vehicles



U-Turns for Trucks



Questions?

